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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/005,066
Filing Date: December 03, 2001
Appellant(s): SYMONS et al.

John P. Wagner, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 18, 2007 appealing from the Office
action mailed August 22, 2006.

(1) Real Party in Interest

    A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

    The examiner is not aware of any related appeals, interferences, or judicial
proceedings which will directly affect or be directly affected by or have a bearing on the
Board's decision in the pending appeal.

(3) Status of Claims

    The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

    The appellant's statement of the status of amendments after final rejection
contained in the brief is correct.

(5) Summary of Claimed Subject Matter

    The summary of invention contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is

correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the prior art of record relied upon in the rejection of

claims under appeal:

- Vairavan, (2002/0083344) issued on June 27, 2002.

- Wang et al., (6,538,997) issued on March 25, 2003.

- Holloway et al., (5,805,801) issued on September 08, 1998.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1.   Claims 13-16, 18-22 and 25-30 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Vairavan, U.S. Patent Application Publication No.

2002/0083344 (hereinafter Vairavan), in view of Wang et al., U.S. Patent No.

6,538,997 (hereinafter Wang).

2.   With respect to claims 22 and 13, Vairavan teaches a method of

managing a network [see abstract and fig.1], said method comprising:

- accessing a database of a stored physical topology of said network to obtain
  authorized address at host ports of switches [paragraphs 0074-0084 i.e. a
  security policy database];

- configuring a switch in said network to forward a packet received at a first port
  [120, 125 and 130] if an address associated with said packet is authorized for
  said first port [paragraphs 0054-0060];

- comparing a set of learned addresses against set of expected addresses,
  said learned addresses comprising addresses associated with packets
  processed at a second port [115a-g], said expected addresses derived from
  an expected configuration of said network [paragraphs 0059-0060 and 0086-
  0101].

However, Vairavan does not explicitly show tracing a topology of said

network to find a third port where an unexpected address entered said network,

said third port coupled to a device having a media access control (MAC address)

that is said unexpected address.

In a method of managing a network, Wang suggests or discloses tracing a

topology of said network [i.e. tracing of the computer network, col.1, lns.11-32

and col.5, ln.9 – col.6, ln.65] to find a third port where an unexpected address

entered said network, said third port coupled to a device having a media access

control (MAC address) [i.e. the determination of which port a particular MAC

address is reachable. For example, Wang suggests if ports do not reachable, the frame is flooded over all outgoing non-blocked ports, col.6, lns.50-65].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Vairavan in view of Wang by tracing a topology of said network to find a third port where an unexpected address entered said network, said third port coupled to a device having a media access control (MAC address) that is said unexpected address because this feature is a consequence of the topologies being aligned [Wang, col.6, lns.63-65]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to gather specific diagnostic information relating to a particular path through the switched network [Wang, col.6, lns.20-21].

3.   With respect to claim 25, Vairavan further teaches said configuring the switch further comprises configuring the switch to drop said packet if said address is not authorized [paragraph 0132].

4.   With respect to claims 18 and 26, Vairavan further teaches said configuring the switch comprises programming the switch in said network to recognize authorized address for said first port [paragraphs 0054-0060].

5.   With respect to claim 27, Vairavan further teaches said configuring the switch further comprises configuring the switch to forward said packet to a host

device [215 i.e. system processor] if said address is authorized for said first port, said first port coupled to said host device [paragraphs 0054-0060].

6.   With respect to claim 28, Vairavan further teaches said method further comprising: determining changes in physical topology of said network [paragraphs 0060 and 0086-0088].

7.   With respect to claim 29, Vairavan further teaches said determining changes in physical topology comprises comparing a physical description of said network with said stored physical topology of said network [paragraphs 0060 and 0086-0088].

8.   With respect to claims 30, Vairavan further teaches said address is a media access control (MAC) address and wherein said network comprises a virtually-wired switching fabric [fig.2].

9.   With respect to claims 14-15, Vairavan further teaches said network is a virtually-wired switching network [fig.1] and said first port couples switches in said network and said second port is couple to a host device [paragraphs 0046-0054].

10.   With respect to claim 16, Vairavan further teaches said method further comprises: taking corrective action at said second port, wherein said second port is coupled to a host device [paragraphs 0069-0071].

11.   With respect to claim 19, Vairavan further teaches of said method is repeated for each interconnect port in said network, wherein said network comprises a plurality of switches [paragraph 0069 and fig.1].

12.   With respect to claim 20, Vairavan further teaches said method further comprises: determining changes in physical topology of said network [paragraphs 0059-0060 and 0086].

13.   With respect to claim 21, Vairavan further teaches of said method comprises comparing a physical description of said network with a stored physical description of said network [paragraphs 0073-0088].

14.   Claims 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vairavan in view of Wang as applied to claims 13 and 22 above, and further in view of Holloway et al., U.S. Patent No. 5,805,801 (hereinafter Holloway).

15.   With respect to claims 17 and 24, Vairavan further teaches the method

further comprising: said network is a virtually-wired switching fabric [fig.2] and

said third port is at the edge of said fabric [paragraphs 0068-0070].

However, Vairavan does not explicitly show disabling said third port.

In a method of managing a network, Holloway discloses disabling a port

[col.3, lns.3-25].

Therefore, it would have been obvious to one of ordinary skill in the art at

the time of the invention was made to modify Vairavan in view of Wang, and

further in view of Holloway by disabling the port because this feature not only

provides for detection of security intrusions, but also provides the proactive

actions needed to stop the proliferation of security intrusions over the domain

[Holloway, col.2, lns.41-45]. It is for this reason that one of ordinary skill in the art

at the time of the invention would have been motivated in order to filter on their

respective ports against the intruding unauthorized address [Holloway, see

abstract].

16.   Claims 31-38 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Vairavan in view of Wang, and further in view of Holloway.

17.   With respect to claim 31, Vairavan teaches a network comprising:

▪   a plurality switches [paragraphs 0047-0048];

- said switches interconnected and configured to control communication between a plurality of devices coupled to said network [fig.1];

- a database having stored therein a stored physical topology of said network and authorized addresses associated with packets processed at ports of said switches, wherein said authorized addresses are based on said stored physical topology [paragraphs 0074-0084 i.e. a security policy database];

However, Vairavan does not explicitly show a configuration agent that is able to program said switches based on said authorized address to detect a packet having an unauthorized address; and a management agent that is able to: compare addresses learned by said switches against said authorized addresses to determine an unauthorized address.

In a method of managing a network, Wang suggests or discloses tracing a topology of said network [i.e. tracing of the computer network, col.1, lns.11-32 and col.5, ln.9 – col.6, ln.65] to find a third port where an unexpected address entered said network, said third port coupled to a device having a media access control (MAC address) [i.e. the determination of which port a particular MAC address is reachable. For example, Wang suggests if ports do not reachable, the frame is flooded over all outgoing non-blocked ports, col.6, lns.50-65].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Vairavan in view of Wang by tracing a topology of said network to find a third port where an unexpected address entered said network, said third port coupled to a device having a media access

control (MAC address) that is said unexpected address because this feature is a consequence of the topologies being aligned [Wang, col.6, lns.63-65]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to gather specific diagnostic information relating to a particular path through the switched network [Wang, col.6, lns.20-21].

Further, Holloway discloses a configuration agent that is able to program said switches based on said authorized address to detect a packet having an unauthorized address [col.3, lns.30-43 and col.4, ln.46 - col.5, ln.12]; and a management agent that is able to: compare addresses learned by said switches against said authorized addresses to determine an unauthorized address [col.7, lns.7-68 and col.3, lns.37-39], in a communication system.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Vairavan in view of Wang, and further in view of Holloway by adding a configuration agent and management agent because this feature this feature not only provides for detection of security intrusions, but also provides the proactive actions needed to stop the proliferation of security intrusions over the domain [Holloway, col.2, lns.41-45]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to send an alert frame to the functional address [Holloway, col.8, lns.18-19].

18.   With respect to claim 32, Vairavan further teaches said switches are further configured to forward said packet if said address is authorized [paragraphs 0054-0060].

19.   With respect to claim 33, Vairavan further teaches said switches are further configured to drop said packet if said address is not authorized [paragraph 0132].

20.   With respect to claim 34, Vairavan further teaches there is a one-to-one mapping between ports of said switches [paragraphs 0047-0049].

21.   With respect to claim 35, Vairavan further teaches said addresses are medium control access (MAC) addresses [fig.2].

22.   With respect to claim 36, Vairavan further teaches said network comprises a virtually-wired switching fabric [fig.2].

23.   With respect to claim 37, Vairavan further teaches said management agent is further able to determine changes in said physical topology of said network and to update said stored physical topology and authorized addresses in said database based on said changes [0054-0060].

24.   With respect to claim 38, Vairavan further teaches said configuration
agent is further able to re-program said switches based on said updates to said
authorized addresses [paragraphs 0054-0060].

(10) Response to Argument

In the remarks, applicant argued in substance that

**I.   The cited references do not meet the claim limitation of comparing
address associated with packets received at a first port in said network
with expected address for said first port to determine unexpected
addresses.**

In response to Appellant's argument that the cited references do not meet
the claim limitation of comparing address associated with packets received at a
first port in said network with expected address for said first port to determine
unexpected addresses, the Examiner respectfully disagrees. Vairavan discloses
comparing addresses associated with packets received at a first port in said
network with expected addresses for said first port to determine unexpected
addresses [paragraphs 0059-0060; 0086-0101 and figs.2-3]. Variravan discloses
the firewall module **310** analyzes [= compares], isolates [= determine unexpected
addresses], filters and discards packets [paragraph 0086]. For example, when
the firewall module **310** analyzes the packet, it must be comparing addresses.
Further, the firewall module 310 isolates and filters packets, it must be
determining whether the addresses unexpected or not. According to Meriam-

Webster online, "unexpected" means not to anticipate or look forward to the coming or occurrence of. "Isolate" means to select from among other. Analyzing, isolating, filtering, and discarding packets read on determining unexpected addresses. Therefore, Vairavan discloses claimed feature as show in above.

II.   **The cited references do not meet the claim limitation of tracing a topology of said network to determine a second port at which a packet associated with an unexpected address entered said network.**

In response to Appellant's argument that the cited references do not meet the claim limitation of tracing a topology of said network to determine a second port at which a packet associated with an unexpected address entered said network, the Examiner respectfully disagrees. Wang discloses tracing a topology of said network [= tracing of the computer network, col.1, ll.11-32 and col.5, ll.9 – col.6, ll.65] to find a third port where an unexpected address entered said network, said third port coupled to a device having a media access control (MAC address) [= the determination of which port a particular MAC address is reachable]. For example, Wang suggests if ports do not reachable [= unreachable] the frame is flooded over all outgoing non-blocked ports [col.6, ll.50-65]. According to Meriam-Webster online, "unexpected" means not to anticipate or look forward to the coming or occurrence of. "Unreachable" means not to stretch out. Therefore, Wang discloses claimed feature as show in above.

III.   **Wang, alone or in combination with Vairavan, does not teach or
suggest a management agent that is able to … trace a topology of said
network to determine a second port at which a packet associated with an
unexpected address entered said network.**

In response to Appellant's argument that Wang, alone or in combination
with Vairavan, does not teach or suggest a management agent that is able to …
trace a topology of said network to determine a second port at which a packet
associated with an unexpected address entered said network, the Examiner
respectfully disagrees. According to dictionary, agent in networking is the part of
the system that performs information preparation and exchange on behalf of a
client or server, in the client-server model. Wang discloses performing a trace of
a multicast path at layer-2 with a trace request and response packet to a network
management node [col.2, ll.46-65]. Performing a trace with exchanging request
and response to network management node is inherently including a
management agent. Further, Wang discloses tracing a topology of said network
[= tracing of the computer network, col.1, ll.11-32 and col.5, ll.9 – col.6, ll.65] to
find a third port where an unexpected address entered said network, said third
port coupled to a device having a media access control (MAC address) [= the
determination of which port a particular MAC address is reachable]. For
example, Wang suggests if ports do not reachable, the frame is flooded over all
outgoing non-blocked ports, col.6, ll.50-65]. According to Meriam-Webster

online, "unexpected" means not to anticipate or look forward to the coming or occurrence of. "Unreachable" means not to stretch out. Therefore, Wang discloses claimed feature as show in above.

In response to Appellant's argument that Wang, alone or in combination with Vairavan does not teach or suggest, "a management agent that is able to ... trace a topology of said network to determine a port where a packet associated with said unauthorized address entered said network," the Examiner respectfully disagrees. According to dictionary, agent in networking is the part of the system that performs information preparation and exchange on behalf of a client or server, in the client-server model. Wang discloses performing a trace of a multicast path at layer-2 with a trace request and response packet to a network management node [col.2, ll.46-65]. Performing a trace with exchanging request and response to network management node is inherently including a management agent. Further, Wang discloses tracing a topology of said network [= tracing of the computer network, col.1, ll.11-32 and col.5, ll.9 – col.6, ll.65] to determine a port where a packet associated with said unauthorized address entered said network [= the determination of which port a particular MAC address is reachable]. For example, Wang suggests if ports do not reachable, the frame is flooded over all outgoing non-blocked ports, col.6, ll.50-65]. According to Meriam-Webster online, "unexpected" means not to anticipate or look forward to the coming or occurrence of. "Unreachable" means not to stretch out. Therefore, Wang discloses claimed feature as show in above.

IV.   Whether the Appellants' arguments are improper for arguing
individually against a particular element that each prior Art reference has
the same deficiency with regard to the particular element.

In response to Appellant's argument that whether the Appellants'
arguments are improper for arguing individually against a particular element that
each prior Art reference has the same deficiency with regard to the particular
element, the Examiner respectfully disagrees. For example, in the remark page
10 mailed on November 02, 2006, in response to Appellant's argument that the
combination of Vairavan and Wang fails to teach or suggest the claimed
embodiments because Wang does not overcome the shortcoming of Vairavan,
the examiner respectfully disagree. The examiner recognizes that obviousness
can only be established by combining or modifying the teaching of the prior art to
produce the claimed invention where there is some teaching, suggestion, or
motivation to do so found either in the references themselves or in the knowledge
generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d
1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21
USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one
of ordinary skill in the art at the time of the invention was made to modify
Vairavan in view of Wang by tracing a topology of said network to find a third port
where an unexpected address entered said network, said third port coupled to a
device having a media access control (MAC address) that is said unexpected

address because this feature is a consequence of the topologies being aligned [Wang, col.6, lns.63-65]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated in order to gather specific diagnostic information relating to a particular path through the switched network [Wang, col.6, lns.20-21]. Second, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642F. 2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Appellant obviously attacks references individually without taking into consideration based on the teaching of combinations of references as show in the above. Therefore, Wang does overcome the shortcoming of Vairavan as show in above.

(11) Evidence Appendix

None

(12) Related Proceedings Appendix

None

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Nghi V. Tran

/N.T./

January 14, 2008

/John Follansbee/

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